



High ambient temperature and the risk of preterm delivery

Author(s): Basu R, Malig B, Ostro B
Year: 2010
Journal: American Journal of Epidemiology. 172 (10): 1108-1117

Abstract:

With temperatures expected to increase because of climate change, it is essential to study the health outcomes of elevated temperature in vulnerable populations, such as expectant mothers. In this study, the authors estimated the association between heat and humidity, as measured by apparent temperature, and preterm delivery. They conducted a case-crossover analysis of almost 60,000 births spanning 16 counties in California that occurred from 1999 to 2006 between May and September. The authors identified cases of preterm birth from a state registry of births, which were combined with meteorologic and air pollution monitoring data based on residential zip code. High ambient temperature was significantly associated with preterm birth for all mothers, regardless of maternal racial/ethnic group, maternal age, maternal education, or sex of the infant. Results indicated that an 8.6% increase (95% confidence interval: 6.0, 11.3) in preterm delivery was associated with a 10 degrees F (5.6 degrees C) increase in weekly average (lag06) apparent temperature. Greater associations were observed for younger mothers, blacks, and Asians. These associations were independent of air pollutants. Given the significant associations for apparent temperature and preterm delivery found in this study, more large-scale studies of temperature and preterm delivery are warranted.

Source: <http://dx.doi.org/10.1093/aje/kwq170>

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Meteorological Factors, Temperature, Other Exposure

Air Pollution: Particulate Matter, Other Air Pollution

Air Pollution (other): NO₂;SO₂;CO

Temperature: Extreme Heat

Other Exposure: apparent temperature

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Climate Change and Human Health Literature Portal

Geographic Location:

resource focuses on specific location

United States

Health Impact:

specification of health effect or disease related to climate change exposure

Developmental Effect

Developmental Effect: Reproductive

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Pregnant Women

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified